



LAST Browser L3: (1032) (623/23.78) [US 6371988 B1] Tag: 3/11 Doc: 9/9 (SORTED/FILTERED)

File Edit View Tools Window Help

	Document ID	Class	Issue	Da	Pag	Title
1	US 5683463 A	U	19971104	8		Intersomati
2	US 5865847 A	U	19990202	17		Lordotic sp
3	US 5989289 A	U	19991123	20		Bone grafts
4	US 6033438 A	U	20000307	34		Open interv
5	US 6111164 A	U	20000829	7		Bone graft
6	US 6123705 A	U	20000926	25		Interbody s
7	US 6149686 A	U	20001121	16		Threaded sp
8	US 2001001677	U	20010823	16		INTERVERTEB
9	US 6371988 B1	U	20020416	55		Bone grafts

(12) **United States Patent**  
Pafford et al.

(10) Patent No.: **US 6,371,988 B1**  
(45) Date of Patent: **Apr. 16, 2002**

(54) **BONE GRAFTS**

(75) Inventors: John Pafford, Germantown; Lawrence M. Boyd; William F. McKay, both of Memphis; Eddie F. Ray, III; James E. Van Hosen, both of Cordova, all of TN (US)

(73) Assignee: SDGI Holdings, Inc., Wilmington, DE (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/484,354  
(22) Filed: Jan. 18, 2000

Related U.S. Application Data

(62) Division of application No. 08-740,081, filed on Oct. 23, 1996, now abandoned.

(51) Int. Cl.<sup>7</sup> ..... A61P 2/28  
(52) U.S. Cl. .... 623/17.11; 623/17.16; 623/23.6; 623/23.63; 606/61

(56) Field of Search ..... 623/16.11, 17.11, 623/17.16, 23.61, 23.63; 606/61

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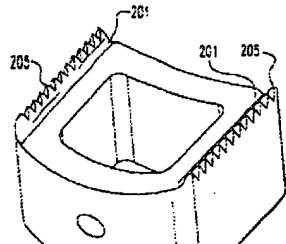
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Primary Examiner—David Isabella  
(74) Attorney, Agent, or Firm—Woodward, Emhardt, Naughton, Moriarty McNeil

(57) **ABSTRACT**

Spinal spacers 20 are provided for fusion of a motion segment. The spacers include a load bearing member 21 having a wall 22 sized for engagement within a space between adjacent vertebrae to maintain the space and an effective amount of an osteogenic composition to stimulate osteoinduction. The osteogenic composition includes a substantially pure osteogenic factor in a pharmaceutically acceptable carrier. In one embodiment the load bearing member includes a bone graft impregnated in an osteogenic composition. In another embodiment, the osteogenic composition 30 is packed within a chamber 23 defined in the graft. Any suitable configuration of a bone graft is contemplated, including bone dowels, D-shaped spacers and cortical rings.

40 Claims, 49 Drawing Sheets



Best Art of ~~text~~ subclass  
search

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27	US 4737411 A	U	19880412	8		Controlle
28	US 4824818 A	U	19890425	7		Catalytic
29	US 4863472 A	U	19890905	8		Bone graf
30	US 4897180 A	U	19900130	7		Catalytic
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49	US 5338772 A	U	19940816	6		Implant m
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51	JP 07000498 A	J	19950106			BONE INDU

# United States Patent [19]

## Lyte

[11] Patent Number: 5,061,286  
[45] Date of Patent: Oct. 29, 1991

## [34] OSTEOPROSTHETIC IMPLANT

[75] Inventor: John W. Lyte, Reimar, N.J.

[73] Assignee: Osteotech, Inc., Sirewsbury, N.J.

[21] Appl. No.: 296,783

[22] Filed: Aug. 18, 1989

[51] Int. Cl. A61F 2/28

[52] U.S. Cl. 623/16; 623/23

[58] Field of Search: 623/1, 11, 12, 16, 18, 623/20, 22, 23, 64; 433/199, 201, 180, 201.1, 212.1, 222.1, 226; 606/76

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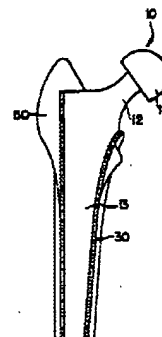
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Primary Examiner—David J. Isabella  
Attorney, Agent, or Firm—Dilworth & Barrese

## [37] ABSTRACT

At least a portion of the surface of an osteoprosthetic implant is provided with demineralized bone powder adhering thereto. Sorption of the bone particles is accompanied by rapid and deep bone in-growth which firmly anchors the prosthesis to the host bone repair site.

19 Claims, 1 Drawing Sheet



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	Document ID	RSO	Issue	Da	Pag	Tit.
1	EP 157909 B	AD	19820930	10	Plastic	
2	WO 8505026 A	D	19851121	8	Implant	
3	US 4737411 A	U	19880412	8	Control	
4	US 4863472 A	U	19880905	5	Bone gr	
5	US 5084051 A	U	19920128	18	Lavered	
6	US 5338772 A	U	19940816	6	Implant	
7	US 5468544 A	U	19951121	11	Composi	
8	US 5645934 A	U	19970708	20	Composi	
9	DE 19614421 A	D	19971016		Biodegr	
10	US 5679723 A	U	19971021	10	Hard ti	
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23	US 6179872 B1	U	20010130	13	Biopoly	
24	US 6350283 B1	U	20020226	18	Bone he	
25	US 2002004024	U	20020404	31	Fixatio	
26	US 6379453 B1	U	20020430	17	Process	
27	US 2002005265	U	20020502	15	Bone he	
28	US 6406498 B1	U	20020618	20	Bioacti	
29	US 2002011168	U	20020815	16	Ratchet	
30	US 2002011168	D	20020815		Interbo	
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33	US 2003009963	U	20030529	19	Bioacti	
34	US 2003012034	U	20030626	18	Contour	

US-PAT-NO: 4863472  
DOCUMENT-IDENTIFIER: US 4863472 A  
TITLE: Bone graft implant

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Brief Summary Text - BSTX (4):

The movements of the bone graft powder particles can be prevented by binding powder particles to each other by means of a polymeric material. Such materials have been described e.g. in G.B. Pat. No. 1 562 758, G.B. Pat. No. 1 593 288 and PCT-patent application 86/01113. The ceramic powder-polymer composites have a disadvantage that the presence of binding polymeric material prevents the direct contact of bioceramic powder particles and bone tissue to each other and therefore delays and prevents the growth of the bone tissue on the surface of composite material and inside of it, because the bone tissue does not have such an affinity to grow on the surface of biostable or resorbable organic polymers as it has to grow on the surface of bioceramics or into their internal open porosity. As a consequence the growth of new bone and the healing of tissue proceeds more slowly with bioceramics-polymer composites than with pure bioceramics (e.g. according to S. Ishida et al., ECB, Bologna, Italy, 1986, Abstracts, p. 86 the growth of new bone on the surface of 70% hydroxyapatite filler-triethyleneglycoledimethacrylate composite occurred in studies done with rabbits 2-3 times more slowly than the growth of new bone on the surface of pure sintered hydroxyapatite.

	Document ID	Issue	Page	Tit.
1	EP 157909 B	AD 19820930	10	Plastic
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6	US 5338772 A	U 19940816	6	Implant
7	US 5468544 A	U 19951121	11	Composi
8	US 5645934 A	U 19970708	20	Composi
9	DE 19614421 A	D 19971016		Biodegr
10	US 5679723 A	U 19971021	10	Hard ti
11	US 5681872 A	U 19971028	19	Bioacti
12	US 5721049 A	U 19980224	19	Composi
13	US 5747390 A	U 19980505	9	Hard ti
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15	US 5882929 A	U 19990316	30	Methods
16	US 5914356 A	U 19990622	26	Bioacti
17	US 5984966 A	U 19991116	9	Bioabso
18	US 6001100 A	U 19991214	9	Bone bl
19	US 6077989 A	U 20000620	17	Resorba
20	US 6118043 A	U 20000912	6	Bone re
21	US 6121172 A	U 20000919	19	Composi
22	US 6165203 A	U 20001226	20	Suture
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28	US 6406498 B1	U 20020618	20	Bioacti
29	US 2002011168	U 20020815	16	Ratchet
30	US 2002011168	D 20020815		Interbo
31	US 2002016144	U 20021031	17	Hemi-in
32	US 6562071 B2	U 20030513	33	Fixatio
33	US 2003009963	U 20030529	19	Bioacti
34	US 2003012034	U 20030626	18	Contour

DERWENT-ACC-NO: 1982-85794E

DERWENT-WEEK: 199734

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TITLE: Plastic particles contg. releasable pharmaceutical -  
e.g. for use as implants, joined together but easily  
sepd.

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## Basic Abstract Text - ABTX (2):

The particles are useful as implants (e.g. in dentistry, for wounds and in surgical reconstruction of bones) and can also serve as carriers for other resorbable materials or radio-isotopes. They are joined together to form a composite which is resistant to pressure and traction but from which the required no. of particles can easily be broken off. The particles are easily introduced or removed without special instruments and complete removal avoids irritation to tissues or development of granuloma.